

REMARKS

Claims 1-4, 17-20, 33-36, and 49-51 are pending for consideration. In view of the following remarks, Applicant respectfully requests that this application be allowed and forwarded on to issuance.

Nonstatutory Double Patenting

Claims are rejected under non-statutory double patenting over U.S. Patent No. 6,118, 817. Applicant requests that the Office hold these rejections in abeyance until the indication of allowable subject matter.

35 U.S.C. § 103

Claims 1-4 are rejected under §103 as being unpatentable over US Patent No. 5,978, 544 to Shimada et al (hereinafter, "Shimada") in view of US Patent No. 4,394,774 to Widergren et al (hereinafter, "Widergren").

Claims 17-20, 33-36, and 49 are rejected under §103 as being unpatentable over US Patent No. 5,978, 544 to Shimada et al (hereinafter, "Shimada") in view of US Patent No. 4,394,774 to Widergren et al (hereinafter, "Widergren") and further in view of US Patent No. 5,815,217 to Kumazawa et al (hereinafter, "Kumazawa").

Claims 50-51 are rejected under §103 as being unpatentable over US Patent No. 5,978, 544 to Shimada et al (hereinafter, "Shimada") in view of US Patent No. 5,929,016 to Legall et al (hereinafter, "Legall").

1
2 **Claim 1** recites a method for encoding a motion video signal, comprising:

- 3 • determining a desired size for a first frame of the motion video
4 signal;
5 • encoding the first frame of the motion video signal to form an
6 encoded frame;
7 • determining an encoded size of the encoded frame;
8 • comparing the encoded size to the desired size;
9 • adjusting an encoding parameter such that encoding the first
10 frame according to the encoding parameter as adjusted would
11 form a different encoded frame having a size closer to the desired
12 size than the encoded size is to the desired size, and wherein the
13 adjusting is based at least in part on a damping factor which
14 reduces overcorrection of the encoding parameter; and
15 • encoding a second frame of the motion video signal according to
16 the encoding parameter as adjusted.

17 In making out the rejection of this claim, the Office argues that Shimada
18 discloses most of the features of claim 1. The Office then relies on Widergren and
19 argues that it discloses adjusting an encoding parameter based at least in part on a
20 damping factor as recited in this claim. As a motivation for making this
21 combination, the Office argues that the motivation would be to “reduce
22 overcorrection of the encoding parameter” which would “speedily obtain a
23 convergence towards desirable rate”. Applicant respectfully disagrees with the
24 Office and submits that the Office has failed to make out a *prima facie* case of
25 obviousness. Applicant respectfully disagrees that the art of record contains any
motivation for the Office’s suggested combination. In fact, Shimada teaches
directly away from the proposed combination or at the very least makes the
proposed combination unnecessary.

Consider, for example, the nature of Shimada’s disclosure. Specifically,
Shimada teaches a video compression coding apparatus which can compress video

1 data while suppressing any degradation of video quality. Col 2, lines 11-12. As
2 such, from the start, Shimada teaches that its system compresses the video and
3 maintains high quality. Shimada continues that input video data is quantized at a
4 quantization level. To keep the compressed video within a predetermined range,
5 adjustments to the quantization level are made incrementally and are limited to
6 changes of +/- one percent. This configuration obtains an appropriate control
7 characteristic at all times to achieve more effective compression coding. Col. 5
8 lines 56-62.

9 Applicant respectfully submits that Shimada's system and method express
10 no need whatsoever for use of a damping factor or similar functionality. The
11 Office suggests that the addition of a damping factor to the system of Shimada
12 would be obvious to avoid overcorrection of the encoding parameter. Not only is
13 Shimada devoid of any mention of incidences or potential incidences of
14 overcorrection, but further Shimada describes incrementing adjustments to its
15 quantization level by one step (1%+/-) to maintain the quantization level within the
16 predetermined range. The incremental adjustment appears to avoid the very
17 overcorrection upon which the Office bases the suggested combination of Shimada
18 and Widergren.

19 The Office suggests that Widergren teaches that "the rate buffer with
20 feedback normalization factor is designed to permit the desired variable coding
21 rate for incoming data while attempting at all times to converge to the overall rate
22 and that damping factor is introduced to keep the data inside the rate buffer rapidly
23 converging towards the normal half full position and the damping factor is strictly
24 dependent upon buffer status". The Office offers no indication how this statement
25 relates to Shimada. For instance, the Office offers no suggestion or evidence that

Shimada's system suffers from buffer starvation or overflow. In fact, as mentioned above, Shimada teaches an incremental quantization level adjustment algorithm that can compress video data with high efficiency while suppressing the degradation of video quality. Rather than suggesting that the skilled artisan should go look to other systems, Shimada teaches that to obtain high efficiency and good video quality the skilled artisan should follow Shimada's incremental quantization level adjustment system. In a similar manner, Widergren contains no suggestion for utilizing its damping factor features in combination with an incremental quantization level adjustment system as taught by Shimada.

Applicant submits that rather than using teachings from the art, the Office has used hindsight reconstruction by using the claimed subject matter as a template to piece together Shimada and Widergren. It is impermissible to use the claimed invention as an **instruction manual or "template" to piece together the teachings of the prior art** so that the claimed invention is rendered obvious. *One cannot use hindsight reconstruction to pick and choose among isolated disclosures in the prior art to deprecate the claimed invention. In re Fritch*, 23 USPQ 2d 1780, 1784 (Fed. Cir. 1992). Accordingly, for at least the reasons described above, the Office has failed to establish a *prima facie* case of obviousness. As such, this claim is allowable.

Claims 2-4 depend from claim 1 and are allowable as depending from an allowable base claim. These claims are also allowable for their own recited features which, in combination with those recited in claim 1, are neither disclosed nor suggested in the references cited and applied by the Office.

Claim 17 recites a computer readable medium useful in association with a computer which includes a processor and a memory, the computer readable

1 medium including computer instructions which are configured to cause the
2 computer to encode a motion video signal by performing the steps of:

- 3 • determining a desired size for a first frame of the motion video
4 signal;
- 5 • encoding the first frame of the motion video signal to form an
6 encoded frame;
- 7 • determining an encoded size of the encoded frame;
- 8 • comparing the encoded size to the desired size;
- 9 • adjusting an encoding parameter such that encoding the first frame
10 according to the encoding parameter as adjusted would form a
11 different encoded frame having a size closer to the desired size than
12 the encoded size is to the desired size, and *wherein the adjusting is
13 based at least in part on a damping factor which reduces
14 overcorrection of the encoding parameter*; and
- 15 • encoding a second frame of the motion video signal according to the
16 encoding parameter as adjusted.

17 In making out the rejection of this claim, the Office argues that its subject
18 matter would be obvious in view of Shimada and Widergren, in further view of
19 Kumazawa. The Office suggests that such a combination “would help to expedite
20 the process”. The Office has failed to establish a *prima facie* case of obviousness
21 for at least the following reasons. The Office’s stated motivation is lacking in
22 particularity that describes why the skilled artisan, without the benefit of
23 Applicant’s disclosure, would seek out and combine these references as the Office
24 has. See e.g., In re Kotzab, 217 F.3d 1365, 1371, 55 USPQ2d 1313, 1317 (Fed.
25 Cir. 2000). This broad type of efficiency motivation is impermissible as
motivation for a §103 combination. Applicant respectfully disagrees with the
Office’s combination and its stated motivation to combine these references. As
such, Applicant respectfully submits that the Office has failed to establish a *prima
facie* case of obviousness.

1 **Claims 18-20** depend from claim 17 and are allowable as depending from
2 an allowable base claim. These claims are also allowable for their own recited
3 features which, in combination with those recited in claim 17, are neither disclosed
4 nor suggested in the references cited and applied by the Office.

5 **Claim 33** recites a computer system comprising:

- 6 • a processor;
- 7 • a memory operatively coupled to the processor and
- 8 • a motion video signal encoder which executes in the processor from
9 the memory and which, when executed by the processor, causes the
10 computer to encode a motion video signal by performing the steps
11 of:
 - 12 ○ determining a desired size for a first frame of the motion
13 video signal;
 - 14 ○ encoding the first frame of the motion video signal to form an
15 encoded frame;
 - 16 ○ determining an encoded size of the encoded frame;
 - 17 ○ comparing the encoded size to the desired size;
 - 18 ○ adjusting an encoding parameter such that encoding the first
19 frame according to the encoding parameter as adjusted would
20 form a different encoded frame having a size closer to the
21 desired size than the encoded size is to the desired size, and
22 wherein the adjusting is based at least in part on a damping
23 factor which reduces overcorrection of the encoding
24 parameter; and
 - 25 ○ encoding a second frame of the motion video signal according
to the encoding parameter as adjusted.

19 In making out the rejection of this claim, the Office argues that its subject
20 matter would be obvious in view of Shimada and Widergren, in further view of
21 Kumazawa. The Office suggests that such a combination “would help to expedite
22 the process”. The Office has failed to establish a *prima facie* case of obviousness
23 for at least the following reasons. This broad type of efficiency motivation is
24 impermissible as motivation for a §103 combination. See e.g., *In re Kotzab*, 217
25 F.3d 1365, 1371, 55 USPQ2d 1313, 1317 (Fed. Cir. 2000). Additionally,

Applicant submits that the Office has used hindsight reconstruction by using the claimed subject matter as a template to piece together Shimada, Widergren, and Kumazawa. *In re Fritch*, 23 USPQ 2d 1780, 1784 (Fed. Cir. 1992). Applicant respectfully disagrees with the Office's combination and its stated motivation to combine these references. As such, Applicant respectfully submits that the Office has failed to establish a *prima facie* case of obviousness.

Claims 34-36 and 49 depend from claim 33 and are allowable as depending from an allowable base claim. These claims are also allowable for their own recited features which, in combination with those recited in claim 33, are neither disclosed nor suggested in the references cited and applied by the Office.

Claim 50 is direct to a method, and recites:

- determining a desired size for a first frame of the motion video signal;
- encoding the first frame of the motion video signal to form an encoded frame;
- determining an encoded size of the encoded frame;
- comparing the encoded size to the desired size;
- adjusting an encoding parameter such that encoding the first frame according to the encoding parameter as adjusted would form a different encoded frame having a size closer to the desired size than the encoded size is to the desired size, and wherein the encoding analyzes both a first encoding adjuster and a second different encoding adjuster; and
- encoding a second frame of the motion video signal according to the encoding parameter as adjusted.

In making out the rejection of this claim, the Office argues that Shimada discloses most of the features of claim 50. The Office then relies on Legall and argues that it discloses the encoding analyzes both a first encoding adjuster and a second different encoding adjuster as recited in this claim. As a motivation for making this combination, the Office argues that the motivation would be to

1 “prevent a VBV buffer from being overflow [sic]”. Applicant respectfully
2 disagrees with the Office and submits that the Office has failed to make out a
3 *prima facie* case of obviousness.

4 Consider, for example, the nature of Shimada’s disclosure. Specifically,
5 Shimada teaches a video compression coding apparatus which can compress video
6 data while suppressing any degradation of video quality. Col 2, lines 11-12. As
7 such, from the start, Shimada teaches that its system compresses the video and
8 maintains high quality. Shimada continues that input video data is quantized at a
9 quantization level. To keep the compressed video within a predetermined range,
10 adjustments to the quantization level are made incrementally and are limited to
11 changes of +/- one percent. This configuration obtains an appropriate control
12 characteristic at all times to achieve more effective compression coding. Col. 5
13 lines 56-62. Thus, Shimada teaches the performance attributes of its incrementally
14 controlled quantization level. Shimada is silent as to any shortcoming of its system
15 or any need for first and second encoding adjusters as recited in claim 50.
16 Shimada is equally silent as to any buffer overflow issues and instead specifically
17 teaches that it at all times achieves more effective compression coding. Col. 5
18 lines 56-62. Effective compression coding is not associated with buffer underflow
19 or overflow. Nonetheless, the Office looks to Legall to teach the missing claim
20 feature.

21 The Office argues that it would have been obvious to the skilled artisan to
22 modify Shimada by employing the system of Legall as doing so would help to
23 prevent a VBV buffer from being overflow [sic]. Shimada contains no indication
24 or suggestion that its system of making incremental adjustments to a quantization
25 level might result in buffer overflow. In fact, as described above, Shimada states

1 that it "can compress video data with high efficiency while suppressing the
2 degradation of video quality" such as from buffer starvation and/or overflow.
3 Shimada teaches the attributes of its incrementally adjusted quantization level and
4 away from the Office's proposed combination with Legall. Legal is similarly
5 silent as to how its first encoding adjuster and second encoding adjuster could be
6 applied to Shimada's incrementally adjusted quantization level. For at least these
7 reasons, Applicant respectfully submits that the Office has failed to establish a
8 *prima facie* case of obviousness.

9 Applicant submits that rather than using teachings from the art, the Office
10 has used hindsight reconstruction by using the claimed subject matter as a template
11 to piece together Shimada and Legall. It is impermissible to use the claimed
12 invention as an **instruction manual or "template" to piece together the**
13 **teachings of the prior art** so that the claimed invention is rendered obvious. *One*
14 *cannot use hindsight reconstruction to pick and choose among isolated*
15 *disclosures in the prior art to deprecate the claimed invention. In re Fritch, 23*
16 *USPQ 2d 1780, 1784 (Fed. Cir. 1992).* Accordingly, for at least the reasons
17 described above, the Office has failed to establish a *prima facie* case of
18 obviousness. As such, this claim is allowable.

19 **Claim 51** depends from claim 50 and is allowable as depending from an
20 allowable base claim. This claim is also allowable for its own recited features
21 which, in combination with those recited in claim 50, are neither disclosed nor
22 suggested in the references cited and applied by the Office.
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Conclusion

Conclusion

Applicant submits that the above pending claims are in condition for allowance. Applicant respectfully requests reconsideration and prompt issuance of the present Application. Should any issue remain that prevents immediate issuance of the Application, the Examiner is encouraged to contact the undersigned attorney to discuss the unresolved issue.

Respectfully Submitted,

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